



U.S. ENVIRONMENTAL PROTECTION AGENCY  
Office of Pesticide Programs  
Biopesticides and Pollution Prevention Division (7511P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

75499-19

Date of Issuance:

1/19/2017

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Unconditional

Name of Pesticide Product:

VitaGib 40% Soluble Powder Plant  
Growth Regulator

Name and Address of Registrant (include ZIP Code):

Plant Synergists, Inc.  
4730 Kingussie Drive  
Houston, TX 77084

**Note:** Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce. In any correspondence on this product, always refer to the above EPA Registration Number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA or the Act).

Registration is in no way to be construed as an endorsement or recommendation of this product by the U.S. Environmental Protection Agency (EPA). In order to protect health and the environment, the Administrator, on his or her motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under the Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA section 3(c)(5) provided that you:

1. Submit and/or cite all data required for registration or registration review of your product when the EPA requires all registrants of similar products to submit such data.
2. Submit Storage Stability and Corrosion Characteristics (Guidelines 830.6317 and 830.6320) data as these data requirements are not satisfied. A one-year study is required to satisfy these data requirements. You have 18 months from the date of this registration to provide these data to the EPA.
3. Make the following labeling change before you release this product for shipment:  
Revise the EPA Registration Number to read, "EPA Reg. No. 75499-19".
4. Submit one (1) copy of the final printed labeling for the record before you release this product for shipment.

Signature of Approving Official:

Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention Division (7511P)  
Office of Pesticide Programs

Date:

1/19/2017

Should you wish to add/retain a reference to your company's website on your label, then please be aware that the website becomes labeling under FIFRA and is subject to review by the EPA. If the website is false or misleading, the product will be considered to be misbranded and sale or distribution of the product is unlawful under FIFRA section 12(a)(1)(E). 40 CFR § 156.10(a)(5) lists examples of statements the EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the EPA find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA-approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance Assurance.

Your release for shipment of this product constitutes acceptance of these terms. If these terms are not complied with, this registration will be subject to cancellation in accordance with FIFRA section 6. A stamped copy of the labeling is enclosed for your records. Please also note that the record for this product currently contains the following acceptable Confidential Statement of Formula (CSF):

- Basic CSF dated 1/17/17

If you have any questions, please contact Chris Pfeifer of my team by phone at 703-308-0031 or via email at [pfeifer.chris@epa.gov](mailto:pfeifer.chris@epa.gov).

Sincerely,

A handwritten signature in blue ink that reads "Andrew C. Bryceland". The signature is fluid and cursive, with the first name being the most prominent.

Andrew Bryceland, Team Leader  
Biochemical Pesticides Branch  
Biopesticides and Pollution  
Prevention Division (7511P)  
Office of Pesticide Programs

Enclosure

**VitaGib 40%**  
**Soluble Powder Plant Growth Regulator**

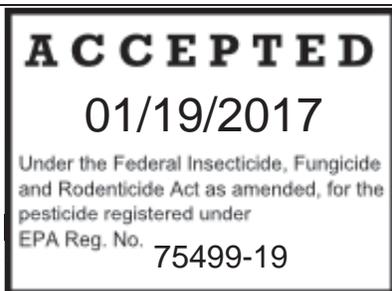
Contains 128 grams of Gibberellic acid for every 320 grams (11.5 ounces) of product.

ACTIVE INGREDIENT:

Gibberellic Acid A<sub>3</sub>..... 40.0% w/w  
 OTHER INGREDIENTS: ..... 60.0% w/w  
 TOTAL: .....100.0% w/w

**KEEP OUT OF THE REACH OF CHILDREN**  
**CAUTION**

<b>FIRST AID</b>	
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOTLINE NUMBER</b>	
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact the National Pesticide Information Center at (800) 858-7378 for general or medical information.</p>	



EPA Reg. No. 75499-

EPA Est. No.

Batch Number:

Net Contents: 2.5 grams, 80 grams, 160 grams, 320 grams, and 850 grams (0.09, 3, 6, 12 and 30 ounces by weight)

This container will treat \_\_\_\_\_ acres at the maximum rate as directed for use on \_\_\_\_\_

## **PRECAUTIONARY STATEMENTS**

### **HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION:** Harmful if inhaled. Causes moderate eye irritation. Harmful if absorbed through skin. Avoid contact with eyes, skin or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse. Wear the appropriate Personal Protective Equipment (PPE).

### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear:

- Long sleeved shirt and long pants
- Waterproof gloves
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

### **USER SAFETY RECOMMENDATIONS**

Users should:

- Remove clothing/PPE immediately if pesticide gets inside, then wash thoroughly, and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

### **ENVIRONMENTAL HAZARDS**

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. Exposed treated seed may be hazardous to birds and other wildlife. Dispose of all excess treated seeds.

### **DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during applications. For any requirements specific to your State or Tribe, consult the State or Tribal agency responsible for pesticide regulation.

### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted-entry interval. The requirements in this box only apply to uses that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 4 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is: Coveralls over short-sleeved shirt and short pants, waterproof gloves and shoes plus socks.

## NON-AGRICULTURAL USE REQUIREMENTS

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Keep unprotected persons out of treated areas until sprays have dried.

## GENERAL INFORMATION

Use only as directed. The label should be read thoroughly and understood before making applications. Keep out of reach of children.

### Application instructions:

VitaGib 40% contains gibberellic acid, which is an extremely potent plant growth regulator. When applying plant growth regulators, follow the label directions for rates, timings, and water volumes. Do not apply untested spray mixes

- Do not apply to plants under pest, nutritional, or water stress.
- Effectiveness requires that all parts of plant or crop receive thorough spray coverage or desired result will not occur. Prepare solution concentrations by mixing the required amount of product with water in a clean, empty spray tank. Dispose of any unused spray material at the end of each day following local, state or federal law.
- For best results, use water with a neutral pH between 4.0 and 8.5. Use a buffer with pH above or below this range.
- VitaGib 40% applications made under slow drying conditions (cool to warm temperatures, medium to high relative humidity, and no wind) will increase absorption by the plant, thus optimizing effectiveness. Night-time applications are encouraged when day-time conditions are not conducive to slow drying conditions.
- Product persistence: VitaGib 40% should be re-applied if significant rain occurs within 2 hours of application.
- Compatibility: The VitaGib 40% spray guidelines refer to the use of the product alone, except as specified. Use a standard jar compatibility test before mixing with other chemicals.
- For aerial applications use spray volumes of 2 gallons per acre or greater (10 gallons per acre for tree crops)
- No pre-harvest interval is required for this product.

## CHEMIGATION PRECAUTIONS

Apply this product only through the following systems: Overhead sprinklers such as impact, microsprinklers, or booms. Do not apply this product through any other type of irrigation system. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label prescribed safety devices for public water systems are in place. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise. Prior to application ensure that the chemigation system meets the following requirements:

- The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow.
- The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.

- The irrigation line or water pump must include a functional pressure switch, which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

In addition to the above use rates and directions, the following precautions must be observed when using this product in any type of irrigation system.

### **CHEMIGATION SYSTEMS CONNECTED TO PUBLIC WATER SYSTEMS**

Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days of the year. Chemigation systems connected to public water systems must contain a functional, reduced pressure zone, backflow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water systems should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe. The pesticide injection pipeline must contain a functional, automatic, quick closing check valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops or in cases where there is no water pump, when the water pressure decreases to the point where the pesticide distribution is adversely affected.

Systems must use a metering pump, such as a positive displacement injection pump (e.g. diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

## **SPRAY INSTRUCTIONS FOR CROP CATEGORIES**

### **SPRAY GUIDELINES FOR GRAPE**

For all grapes, application by ground sprayer is recommended. Apply as a concentrate or dilute spray in sufficient water volume to ensure complete coverage of all flower clusters or berries. For cultivar specific spray rates and timings, see accompanying tables.

#### **SEEDLESS TABLE GRAPES**

##### **CLUSTER STRETCH SPRAYS**

<b>TREATMENT OBJECTIVE</b>		<b>TIMING OF APPLICATION</b>	
For cluster elongation and looser cluster forms. To reduce costs of thinning, allow better air circulation to aid in the control of bunch rot, and increase light penetration which aids in sugar development.		Make 1-3 applications before bloom when flower clusters are 2-7 inches long.	
<b>CULTIVAR</b>	<b>Grams A.I. /acre</b>	<b>Grams Product/Acre</b>	<b>Ounces Product/Acre</b>
Perlette seedless	8 - 24	20-60	0.7 – 2.2
Flame seedless	8 - 24	20-60	0.7 – 2.2
Thompson Seedless	8 - 24	20-60	0.7 – 2.2
Raisin	8 - 24	20-60	0.7 – 2.2

### BERRY THINNING SPRAYS

TREATMENT OBJECTIVE		TIMING OF APPLICATION	
For decreased berry set, reduced hand-thinning cost and hastened maturity in seedless grapes.		Make 1 – 4 applications during bloom. Make only 1 – 2 applications for “Other seedless grapes,” When the bloom period is extended, subsequent sprays are to be made 1-7 days after first application.	
CULTIVAR	Grams a.i. /acre	Grams Product/Acre	Ounces Product/Acre
Flame seedless	3 – 16	7.5-40	0.3-1.4
Thompson Seedless	8 – 20	20-50	0.7-1.8
Raisin	3 -12	7.5-30	0.3-1.1
Other Seedless Grapes	0.5 -12	1.3-30	0.1-1.1
<b>NOTE:</b> At the high end of the prescribed range of rates and number of applications, expect considerably more thinning in young vines or vines with high vigor. For “Other Seedless Grapes” use caution as some new cultivars are very responsive and over-thin easily. Consult local specialists before thinning unfamiliar cultivars.			

### BUMP SPRAY

TREATMENT OBJECTIVE		TIMING OF APPLICATION	
To initiate the beginning of berry growth in listed cultivars.		Make one application between the last thinning spray and the first sizing spray.	
CULTIVAR	Grams A.I./Acre	Grams Product/Acre	Ounces Product/Acre
Thompson Seedless	<b>16-24</b>	40 - 60	1.4 – 2.2

### BERRY SIZING SPRAYS

TREATMENT OBJECTIVE		TIMING OF APPLICATION		
For larger berries and larger clusters when used in conjunction with established girdling and thinning practices.		Make 1-4 applications beginning when the average berry size reaches "target" diameter (See below). Timing of the subsequent sprays will be dictated by experience in the vineyard and temperatures occurring between sprays. Sprays made after 15-20 days from the first sizing spray are less effective.		
CROP/CULTIVAR	TARGET BERRY DIAMETER*	Grams A.I./Acre	Grams Product/Acre	Ounces Product/Acre
Perlette Seedless	4-5 mm	32	80	2.9
Flame Seedless	6-9 mm	20	50	1.8
Thompson Seedless	3-5 mm	32	80	2.8
Raisin	3-5 mm	4	10	0.4
Other Seedless Grapes	3-14 mm	8	20	0.7
*Target average berry diameter for the first application.				
<b>NOTE:</b> In some growing regions and for some cultivars, the higher amounts of gibberellic acid indicated will reduce fruitfulness (cluster counts) the following year. At the high end of the prescribed range of rates and number of applications, a delay in berry skin color development, sugar accumulation and overall maturation has been observed. Consult your local specialist before sizing cultivars with which there is no familiarity.				

<b>SEEDLESS BERRY SIZING CLUSTER DIP</b>			
<b>TREATMENT OBJECTIVE</b>		<b>TIMING OF APPLICATION</b>	
<b>To increase berry size.</b>		Apply 20 - 50 ppm GA3 solution as a dip or direct spray to the cluster when berries reach 12-15 mm.	
<b>CROP/CULTIVAR</b>	<b>Rate Per 5 Gallons Treatment Solution</b>		
	<b>PPM A.I.</b>	<b>Grams Product</b>	<b>Ounces Product</b>
<b>Seedless Grapes</b>	1-2.5	20-50	0.1-0.25
NOTE: To prepare dip solution, add 1 - 2.5 gram VitaGib 40% for every 5 gallons of solution needed. Consult your local specialist before sizing cultivars with which there is no familiarity.			

<b>BERRY SIZING SPRAYS-SEEDED TABLE GRAPES</b>				
<b>TREATMENT OBJECTIVE</b>		<b>TIMING OF APPLICATION</b>		
To increase berry size in listed cultivars; and also to reduce berry shrivel in Emperor.		Make one application during the indicated berry diameter range to the entire vine.		
<b>CROP/CULTIVAR</b>	<b>BERRY DIAMETER (mm)*</b>	<b>Rate</b>		
		<b>Grams A.L./Acre</b>	<b>Grams Product/Acre</b>	<b>Ounces Product/Acre</b>
Emperor	12 - 16	<b>20</b>	<b>50</b>	<b>1.8</b>
Red Globe	12 - 18			
Calmeria	12 - 16			
Christmas Rose	12 - 16			
Rogue	12 - 16			
Queens	12 - 15			
*Predominant average berry diameter for this application.				
NOTE: Whole vine applications have been known to reduce fruitfulness (cluster counts) the following year. Consult your local specialist before sizing cultivars with which there is no familiarity.				

<b>BERRY SIZING CLUSTER DIPS – SEEDED TABLE GRAPES</b>				
<b>TREATMENT OBJECTIVE</b>		<b>TIMING OF APPLICATION</b>		
To increase berry size in listed cultivars; and also to reduce berry shrivel in Emperor.		Make one 20-50 ppm application during the indicted berry diameter range. Make the application as a direct spray or dip to the cluster.		
<b>CROP/CULTIVAR</b>	<b>BERRY DIAMETER (mm)*</b>	<b>Rate Per 5 Gallons Treatment Solution</b>		
		<b>PPM A.I.</b>	<b>Grams Product</b>	<b>Ounces Product</b>
Emperor	12-16	<b>20-50</b>	<b>1-2.5</b>	<b>0.1-0.25</b>
Red Globe	12- 18			
Calmeria	12-16			
Christmas Rose	12-16			
Rogue	12-16			
Queens	12-15			
Other Seeded Grapes	2-3 weeks after bloom or when shatter is completed			

\*Predominant average berry diameter for this application.

**NOTE:** To prepare a 50 ppm GA3 solution, add 1 gram A.I. for every 5 gallons of dip solution needed. Consult your local specialist before sizing cultivars with which there is no familiarity.

### BERRY SIZING SPRAYS - BLACK CORINTH

TREATMENT OBJECTIVE	TIMING OF APPLICATION		
To increase berry size.	Make 1 application 3-5 days after full bloom, but before shatter begins.		
CROP/CULTIVAR	Grams A.I./Acre	Grams Product/Acre	Ounces Product/Acre
Black Corinth (Zante Currant)	1-12	2.5-30	0.1-1.1

### WINE GRAPES

TREATMENT OBJECTIVE	TIMING OF APPLICATION	
To increase cluster length and improve air circulation and light penetration within the cluster. Under specific conditions this application has been known to help reduce the incidence of bunch rot and sour rot.  Consult your local specialist before treating cultivars with which there is no familiarity.	Make a single spray. Apply when clusters found on the dominant shoots arising from buds on count spurs are starting to elongate and show separation of the uppermost flower groups. This timing usually coincides with average cluster length of 3-4 inches (1-5 inch overall cluster length range). For each cultivar, follow the rate directions given on the table below. Use 100 gallons of water per acre.	
CROP/CULTIVAR	RATE Grams a.i./acre	RATE Product/acre
Palomino Sauvignon Blanc Tinta maderá	0.4 - 1	0.04-0.1 oz Product 2.5 Grams Product
Aleatico Carinane Chardonnay Chenin Blanc French Colombard Pinot Noir Valepenas	1-2	2.5 – 5 Grams Product 0.1 – 0.3 oz Product
Barbera Petite Sirah Zinfandel	2 -4	5-10 grams Product 0.2 – 0.4 oz Product
Green Hungarian	4-8	10 – 20 Grams product 0.4 -0.7 oz product
Grenache Alicante	8	20 grams product 0.7 oz product
Salvadore	8-16	20-40 grams product 0.7 – 1.4 oz product

**NOTE:** •

DO NOT make this application less than three weeks before anticipated bloom. This application will most likely cause some reduction in yield of seeded wine grape cultivars. This reduction in yield results from: a) increase in shot berries in the year of application; b) reduction in fruitfulness (cluster counts) in the first and second year following the application.

### SPRAY GUIDELINES FOR CITRUS

- For citrus, apply in sprays of sufficient water volume to ensure thorough fruit wetting. In most cases, this application will cause some drop of oldest (most mature) leaves; this drop of older leaves is inconsequential. However, application to trees of low vigor or under stress (pest, nutritional, or water, etc.) has been known to cause severe leaf and/or fruit drop.
- Dilute spray rates are expressed as the amount of product per 100 gallons of water.
- Do not apply in white wash sprays in which lime or other caustic material has produced a high pH in the spray tank. Applications of copper fungicides and/or oils within three weeks (before or after) the VitaGib 40% application often results in significant leaf drop and fruit drop.

### CITRUS: FIELD APPLICATIONS

<b>CITRUS - INCREASE FRUIT SET</b>			
<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Navel, Valencia*, and Ambersweet* Orange *(Not for use in California)	To enhance fruit set and yield.	15-25 Grams A.I. 37.5-62.5 Grams product 1.4-2.3 Ounces product	Make a single dilute spray between mid-December and late January using sufficient spray volume for adequate coverage of tree canopy
NOTE: Many blocks of Ambersweet and Navel orange in Florida tend to flower very heavily, yet set poor crops. In these blocks, it appears that tree resources are wasted by heavy flowering, compromising the trees' ability to set fruit, support early fruit growth, and carry fruit to harvest. Productivity of heavily blooming blocks is often increased by reducing flower formation.			
Clementine Mandarin (Limit of 1-3 full applications in California)	To increase fruit set and yield	1- 40 Grams A.I. 2.5 - 100 Grams product 0.1 -3.6 Ounces product	Make 1 - 4 applications from early bloom up to 4 weeks after petal fall. Allow a minimum of 3 days between sprays. Use a dilute spray with sufficient spray volume for adequate coverage of tree canopy.
Tangerines and Mandarin Hybrids (Not for use in California)	To increase fruit set and yield.	8 - 30 Grams A.I. 20 - 75 Grams product 0.7 - 2.7 Ounces product	Make 1 - 2 applications during the bloom period. Apply as a dilute spray.
Grapefruit (Not for use in California)	To enhance fruit set, size and yield	8-30 Grams A.I. 20 - 75 Grams product 0.7 - 2.7 Ounces product	Make a single application in December - January. Use a dilute spray with sufficient spray volume for adequate coverage of tree canopy. Typically 125-175 gallons of water per acre has been sufficient.
NOTE: The rate and number of applications depends upon amount of desired fruit set. Generally, more fruit will be set by 2 applications (except grapefruit), earlier applications, higher rates, and climactic conditions more favorable to set. Differential responses to the PGR across citrus cultivars also interact with the above factors to affect the degree of fruit set achieved. Reductions in final fruit size are known to occur as a result of excessive fruit set. Increases in mature leaf drop occur in trees under stress.			

**CITRUS - REDUCE FRUIT DROP**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Star Ruby Grapefruit (Not for use in California)	To reduce early-season small fruit drop of Star Ruby Variety thereby increasing yields.	25 - 35 Grams A.I. 62.5-87.5 Grams product 2.3 - 3.2 Ounces product	Make a single dilute application during the bloom period.
NOTE: Results vary from season to season depending on environmental conditions. Maintain a well -balanced fertilization and watering program.			

**CITRUS - DELAY RIND AGING**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Navel and other orange cultivars (except Valencia)	To delay rind aging, reduce physiological disorders (e.g., rind staining, water spotting, sticky or tacky surface, oleocellosis), and produce a more orderly harvesting, pattern	16 -48 Grams A.I. 40 - 1 20 Grams product 1 .4 - 4.3 Ounces product	Make 1 - 2 applications as a concentrate or dilute spray. Early application: spray approximately 2 weeks prior to color break (typically AUG. - NOV.). This timing causes the greatest delay in rind aging and produces the firmest rind possible. AND/OR Late application: 1 application after marketable color (typically OCT. - DEC.). This late spray has been known to cause re-greening.
Valencia Orange	To reduce rind creasing and to delay rind aging and softening	40 - 80 Grams A.I. 100 - 300 Grams product 3.6 - 7.2 Ounces product	Make a single application as a concentrate or dilute spray in August to October to target crop of young fruit.

**NOTE:**

- Do not apply the early spray to groves that will be harvested early, as fruit coloring will be delayed.
- Do not apply from January through July, as production is often reduced the following year.
- Slower color development is to be expected in the target crop. Increased re-greening of mature fruit has been known to occur. After marketable color is achieved, treatment effects are reduced the longer treated fruit remain on the tree.

Tangerine Hybrids (Orlando, Robinson, Minneola, Sunburst, and others)	To delay disorders associated with rind aging, puffiness, and softening, and to increase peel strength, of tangerine hybrids	20 - 40 Grams A.I. 50 - 100 Grams product 1 .8 - 3.6 Ounces product	Make 1 spray application 2 weeks prior to color break. Apply as a dilute spray.
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**NOTE:** Do not apply if early harvest is planned. Do not apply after coloring as pre-harvest rind staining and re-greening has been known to occur. Application during coloring sometimes causes variation in rind color development.

Grapefruit (Not for use in California)	To delay disorders associated with rind aging (e.g., puffiness, softening, and orange coloration), prevent pre-harvest	16 -48 Grams A.I. 40-120 Grams product 1 .4 - 4.3 Ounces product	Make 1 or 2 dilute spray applications in sufficient volume to ensure coverage. Do not exceed 20 ppm A.I. (8 Grams A.I. 7100 gallons) in spray solution. EARLY: Make application two 2
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	drop of mature fruit, increase peel strength, reduce water loss during storage, and produce a more orderly harvesting pattern.		weeks prior to color break. Apply as a dilute spray (AUG. - SEPT). AND/ORLATE: Make application after marketable color has developed (OCT-DEC).
NOTE: Do not spray in groves that will be harvested early, as fruit coloring will be delayed. Treated fruit will re-green if allowed to remain on the tree for extended periods. Do not use concentrate sprays. Results vary from season to season depending on environmental conditions. The delay in rind aging is greatest when spray is applied before color change. For maximum effect on rind firmest and delay in rind aging, make applications before color change.			
Lemon/Lime	To decrease rind aging, yellowing, and the amount of small ripe fruit, and to produce a more desirable production pattern relative to market demand.	10 -32 Grams A.I. 25 - 80 Grams product 0.9 - 2.9 Ounces product	Make a single application when target crop is 1/2 to full size, but still green.
NOTE: When applied 2 years in a row, an even larger difference in harvest pattern and maturity have been known to occur.			

**CITRUS - INCREASE JUICE YIELD**

CROP/VARIETY	OBJECTIVE	USE RATE/ACRE	TIMING OF APPLICATION
Processing oranges (Not for use in California)	To increase juice extraction yield in late-harvested processing oranges	20 Gram A.I. 50 Grams Product 1.8 Ounces Product	Make a single application at fruit color break in sufficient volume to ensure complete coverage of the fruit.

**SPRAY GUIDELINES FOR TEMPERATE FRUIT CROPS**

For temperate fruit crops, apply in sprays of sufficient water volumes to ensure thorough fruit wetting. Application to plants or trees of low vigor or under stress (pest, nutritional, or water, etc.) causes severe leaf and/or fruit drop. Applications of copper fungicides and/or oils within three weeks (before or after) the VitaGib 40% application often results in significant leaf drop and fruit drop.

**TEMPERATE FRUIT CROPS: FIELD APPLICATIONS**

**TEMPERATE FRUIT CROPS - FRUITSET**

CROP-VARIETY	OBJECTIVE	USE RATE/ACRE	TIMING OF APPLICATION
Highbush blueberry: Covile, Jersey, Stanley, Ealibblue, Weymounth, Walcott, berkley, Bluray, Bluecrop, 1316A, Concord, and others.  (Not for use in California)	To improve fruit set.	40-80 Grams A.I.  100-200 Grams Product  3.6-7.2 Ounces Product	Make a single application of 80 Grams A.I. per acre in 40-100 gallons of water. The application should be made at full bloom, when 75% of flowers are fully open.  OR Make 2 applications of 40 Grams per acre in 40 - 100 gallons of water. Make the first application at full bloom, and the second

			application within 10-14 days of the first spray. For Weymouth, application can be delayed up to 2 weeks after bloom to increase size of shot berries.
Rabbiteye Blueberry:  Aliceblue, Beckyblue, Bonita, Brightwell, Climax, Delite, Tiftblue, Woodward and others.  (Not for use in California)	To improve fruit set.	40-80 Grams A.I. 100-200 Grams Product 3.6 -7.2 Ounces Product	Make a single application of 40-80 Grams of A.I. in 40-100 gallons of water per acre when most flowers are elongated but not yet open (Bloom Stage 5). OR Make 2-4 applications 10-14 days apart starting at Bloom Stage 5. Spray 20-40 Grams A.I. in 40-100 gallons of water per acre per application.
Melon  (Not for Use in California)	To stimulate fruit set during periods of cool temperatures.	1-4 Grams A.I. 2.5 -10 Grams Product 0.1-0.4 Ounces Product	Make applications just prior to bloom. For cantaloupes and watermelons 2 additional applications should be made at intervals of 10-14 days.
<b>NOTE:</b> For maximum benefits, vines must be in good condition, except for reduced growth rate due to cool temperatures.			

<b>TEMPERATE FRUIT CROPS - SPUR FORMATION</b>			
<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Sour Cherry (Not for use in California)  Red Tart Cherry	To maintain and extend high fruiting capacity of sour cherry trees by promoting spur formation and reducing the occurrence of "blind" nodes. Spur formation is apparent the year after application. Therefore, changes in shoot, spur, and flower production will not be evident until 2 or 3 years after program initiation.	4-18 Grams A.I.  10-45 Grams Product  0.4- 1.6 Ounces product	Apply 1 spray 14-28 days after bloom. Optimum timing is defined as that stage when 3-5 terminal leaves have fully expanded, or, at least 1 -3 inches of terminal shoot extension has occurred. Use 4-18 Grams A.I. per acre, depending on tree age and vigor (See Table below). Apply as a dilute spray in sufficient water to ensure thorough wetting, or as a concentrate spray ensuring uniform coverage.
<b>NOTE:</b>			
<ul style="list-style-type: none"> <li>• Applications must be applied annually to ensure spur development and subsequent yield improvement year after year.</li> <li>• Rates are based on expected normal tree vigor at various ages. Adjust rate according to tree vigor. If trees are vigorous, use lower rates. Lowest rates should also be used on trees that have been heavily pruned or hedged. Use higher rates for trees low in vigor and weak in shoot and spur production. Excessive application rates will increase vegetative growth at the expense of fruit production the following year.</li> <li>• Applications will not improve growth of trees under stress conditions, such as nutritional, moisture, or pest development. Best results will be obtained when combined with good cultural practices.</li> </ul>			

**APPLICATION RATES FOR SOUR CHERRY TREES BY AGE**

<b>TREE AGE (YEARS)</b>	<b>GRAMS A.I./ACRE</b>	<b>GRAMS PRODUCT/ACRE</b>	<b>OUNCES PRODUCT/ACRE</b>
6-10	4- 6	10-15	0.4-0.5
11-15	8-10	20-25	0.7-0.9
16-20	10-14	25-35	0.9-1.3
20 + years	14-18	35-45	1.3-1.6

**TEMPERATE FRUIT CROPS - FRUIT QUALITY**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Sweet Cherry (One application ONLY in the state of California)	To produce larger, brighter colored, firmer fruit	16 -48 Grams A.I. 40 -120 Grams product 1.4 -4.3 Ounces product	Make 1-2 applications depending on crop development. If crop development is uniform, make 1 application when the fruit is translucent green to straw colored. <b>(Second application - Not for use in California)</b> If cultivars or conditions cause non- uniform crop development make 2 applications. When using 2 applications apply 1/3 to 1/2 of the total desired amount when the majority of the fruit is translucent green. Apply the remaining material 3-7 days later, when the majority of the fruit is straw colored. Use sufficient water volume to ensure thorough wetting.

**NOTE:**

- Color development and harvest date is often slightly delayed.
- Use higher rates with heavier crop loads.

Stone Fruit Group	To increase fruit firmness and improve fruit quality in the season of application	16-32 Grams A.I. 40 - 80 Grams product 1.4 -2. 9 Ounces product	Apply as a single spray 1 - 4 weeks prior to the beginning of the harvest period. Use sufficient water to achieve complete coverage of fruits and foliage.
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**NOTE:**

- This application has been known to cause reduction in flower counts the year following the application, particularly if it is made during the months of May through July.

Italian Prune (Not for use in California)	To reduce internal browning, improve quality, and increase size.	16-48 Grams A. I. 40-100 Grams product 1.4 - 4.3 Ounces product	Make a single application 4-5 weeks before expected harvest. Apply in sufficient water volume to ensure thorough wetting.
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**NOTE:**

- Color development and harvest have occasionally been slightly delayed. Observation of reduced bloom the following season is occasionally seen.

**TEMPERATE FRUIT CROPS**

<b>CROP/VARIETY</b>	<b>OBJECTIVE/BENEFIT</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Pecan (Not for use in AZ, CA, & NM)	To extend leaf retention and maintain green foliage.	10-40 Grams A.I. 25-100 Grams product 0.9 - 3.6 Ounces product	Make 1-4 applications of 10 g A.I. beginning in July and continuing through October as needed. Note: Use sufficient water to achieve complete coverage. In most cases 100 gallons per acre has been shown to be effective. • Do not make more than one application of VitaGib 40 % in July. Using more than one application in July may result in reduced return bloom. • VitaGib 40% may be tank mixed with a suitable Insecticide or with fungicides.

**TEMPERATE FRUIT CROPS - NON BEARING USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Non Bearing Stone Fruit  (Not for use in California)	To reduce flowering and fruiting in young stone fruit trees in order to minimize the competitive effect of early fruiting on tree development.	20 - 80 Grams A.I. 50 - 200 Grams product 1.8 -7.2 Ounces product	Make a single application during the period of flower bud initiation for the following year. Use sufficient water to achieve good coverage of the canopy.
Non Bearing Blueberry (Not for use in California)	To reduce flowering and fruiting in young blueberry plants in order to minimize the competitive effect of early fruiting on plant development.	20 - 80 Grams A.I. 50-200 Grams product 1.8 -7. 2 Ounces product	Make 1 - 4 applications during the period of flower bud initiation for the following year. Use sufficient water to achieve good coverage of the canopy.
<b>NOTE:</b> Do not spray plants/trees in their first year. Treat in the second season for reduction of flowering in the third season, and again in the third season if flower reduction and fruiting is desired in the fourth season. Treat only plants/trees that are in good physiological condition. Discontinue treatment the year before desired harvest. Consult with your local horticulturist for timings and rates for specific cultivars in your area.			
Strawberry  (Not for use in California)	To increase runner production of mother plants.	15-25 Grams A.I 37.5 -62.5 Grams product 1.4-2.3 Ounces product	Make a single application to mother plants 10-30 days after planting. Plants should have 1-6 leaves at spraying. Apply 100 gallons spray/acre to point of run-off.
<b>NOTE:</b> Not for use on fruiting plants. Treatments have not always been effective on plantings set out after mid-May. Response varies with cultivar and location. Consult your local horticulturist for specific directions.			

<b>TROPICAL FRUIT CROPS - FIELD USES</b>			
<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Avocado	To improve fruit set and yield,	25 Grams A.I. 65 Grams Product 2.2 Ounces Product	Apply at the cauliflower stage of flower development.
Pineapple (Not for use in California)	To improve fruit size.	125-250 Grams A.I. 312.5-625 Grams product 11.3-22.5 Ounces product	Apply after flowering. Make 2 applications at 2-5 weeks intervals. Direct sprays to the fruit. Use sufficient water to achieve adequate coverage.
	To improve uniformity of fruit maturity and enhance harvest efficiency	12-24 Grams A.I. 30-60 Grams Product 1.1 -2.2 Ounces Product	Make the first application a few days after planting when plants are well established. Repeat applications a 3-4 week intervals.
Coffee (Not for use in California)	To induce flower bud break.	10-50 Grams A.I. 25-125 Grams Product 0.9 - 4.5 Ounces Product	Apply in sufficient water volume to assure total coverage of developing buds along all laterals (arrange nozzles for from bottom up as well as top down of laterals and leaves. Multiple applications at 3-7 day frequency may be required over a period of 10-14 days. Use a non-ionic surfactant at 0.05% v/v to enhance performance.

<b>TROPICAL CROPS - FIELD USES</b>			
<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Sugarcane	To maintain yields in older plantings, increase biomass and stimulate growth	1.0-2.0 Grams A.I. 2.5-5.0 Grams Product 0.1-0.2 Ounces Product	Apply at 1st to 5th internode stage of ratoon crop in at least 20 gal./Acre. Addition of a non-ionic surfactant may increase activity.
Banana (Not for use in California)	<b>ESTABLISHED PLANTINGS:</b> To stimulate plant growth and to reduce the effects of stresses caused by insect, disease or adverse weather. These applications have been known help improve fruit size, quality	<b>AERIAL FOLIAR SPRAY:</b> 2.5-12 Grams A.I. per acre per spray.  6-30 g product 0.25 — 1.1 oz product	Make applications at 1- 3 weeks frequency throughout the year. Use higher dose rates and shorter spray frequency prior to and during the periods of stress. Use sufficient water volume to achieve adequate canopy coverage. Tank mixing with the standard pesticide treatments applied by air is permissible.

	and overall yields.	GROUND FOLIAR SPRAY: 2.5-12 Grams A.I. per acre per spray.  6-30 Grams product 0.25- 1.1 oz product	Direct applications to developing daughter plants and pre-bloomed mother plants. Make applications every 1-3 weeks throughout the year as needed. Use higher dose rates and shorter spray frequency during periods of intense stress. Use sufficient water volume to achieve adequate canopy coverage Tank mixing with standard pesticides is permissible.
	NEW PLANTINGS: To stimulate early growth in new plantings, increase plant vigor and accelerate development to flowering.	FOLIAR BUNCH SPRAY: Add 1 - 2 Grams A.I. per gallon of water.	Make applications immediately after floral bunch emergence when hands and fingers are exposed through bunch bagging program. Use sufficient water volume to achieve adequate canopy coverage Tank mixing with standard pesticides is permissible. Add non-ionic surfactant at 0.05% v/v to enhance coverage and uptake.
		PSEUDOSTEM INJECTIONS: Add 2.0 - 5.0 Grams a.i.. per gallon of water.	Utilize a 5 ml volume per injection. Make 2-4 injections from the 14th true leaf to 5 weeks before shooting. Make the first injection beginning at the 14*- 15th true leaves measured from the 10th Filiform leaf development
Plantain (Not for Use in California)	ESTABLISHED PLANTINGS: To stimulate plant growth and reduce the effects of stresses caused by insect, disease or adverse weather. These applications may help improve fruit size, quality and overall yields.	GROUND FOLIAR SPRAY: Apply 6-20 Grams per acre per spray.	Direct applications to developing daughter plants and pre-bloomed mother plants. Make applications every 1-3 weeks throughout the year as needed. Use higher dose rates and shorter intervals during times of intense stress. Use sufficient water volume to achieve adequate canopy coverage. Tank mixing with standard pesticides is permissible.

### SPRAY GUIDELINES FOR VEGETABLE CROPS

For vegetable crops, apply in sprays of sufficient water volumes to ensure thorough fruit wetting. Foliage of treated plants occasionally and temporarily appears lighter green in color due to accelerated growth rates following application. Application to plants of low vigor or under stress (pest, nutritional, or water, etc.) causes severe leaf yellowing, poor performance and/ or undesirable effects. Tank-mixing with surfactants, fertilizers, and/or other pesticides should not be done unless compatibility and phytotoxicity testing is done first using appropriate methods.

VEGETABLE CROPS			
CROP/VARIETY	OBJECTIVE	USE RATE/ACRE	TIMING OF APPLICATION
Artichoke	To accelerate maturity and shift harvest to an earlier date.	10 -20 Grams A.I. 25 - 50 Grams product 0.9- 1.8 Ounces product	For perennials: apply 1 - 3 applications at bud initiation stage. For annuals: apply 1-4 applications at 2-week intervals,

			beginning at the fourth true leaf. Use sufficient water volume to ensure thorough wetting of the entire plant (leaves, stems and buds).
Carrots Fresh and Processing	To delay leaf senescence. Maintaining vigorous foliage has been shown to help reduce the incidence of infection by <i>Alternaria dauci</i> .	1-6 Grams A.I. 2.5 -15 Grams product 0.1 -0.5 Ounces product	Make the first application 4-6 weeks after emergence using commercial ground or aerial equipment with spray concentrations of 20-30 ppm. In severe disease situations or cool weather a second spray 14 days later is sometimes required to achieve the desired amount of foliar recovery. Do not apply more than twice per crop.
<b>NOTE:</b> Spray applications at concentrations greater than 0.1 oz/10 gallons (30 ppm) can increase the risk of excessive top growth, particularly with a second application.			
Celery	To increase plant height and yield and to overcome stress due to cold weather conditions or saline soils, and obtain earlier maturity.	2.5 -10 Grams A.I. v 6.3 - 25 Grams product 0.2 - 0.9 Ounces product	Make a single application 1-4 weeks prior to harvest. Use 25 - 50 gallons of water per acre by ground application or 5 - 10 gallons of water per acre for aerial application (except in California). Use lower concentrations if applying 3-4 weeks before harvest and higher concentrations within 1 - 2 weeks before harvest.
<b>NOTE:</b> Do not apply by air in California. Do not apply earlier than 4 weeks before harvest as bolting has been known to occur.			
Cucumber (Not for use in California)	To stimulate fruit set during periods of cool temperatures.	1-4 Grams A.I. 2.5 - 10 Grams product 0.1 - 0.4 Ounces product	Make 1 application prior to bloom followed by 2 additional applications at intervals of 10 - 14 days. It is acceptable to use up to four applications. Use sufficient water volume for thorough coverage of exposed foliage.
<b>NOTE:</b> For maximum benefits, vines must be in good condition, except for reduced rate of growth due to cool temperatures.			
Lettuce for Seed	To obtain uniform bolting and increase seed production.	1 - 4 Grams A.I. 2.5-10 Grams product 0.1 - 0.4 Ounces product	Apply 1 - 4 applications at 2-week intervals, beginning at the fourth true leaf. Use sufficient water volume to ensure thorough wetting.
Pepper (Not for use in California)	To increase fruit set and promote early season fruit growth.	1-3 Grams A.I. 2.5-7.5 Grams product 0.1 - 0.27 Ounces product	Apply 1 - 2 sprays of 25 - 50 gallons per acre at weekly intervals during the flowering period.
<b>NOTE:</b> This use is best for areas with short growing seasons, or when low temperatures slow plant growth. The high rate is most efficacious for areas and/or varieties with pollination and/or fruit set problems.			
Pepper (Not for use in California)	To. increase fruit size and yield.	1 - 3 Grams A.I. 2.5 - 7.5 Grams product	Apply in 25 - 50 gallons of water per acre at the beginning of the picking period.

		1 0.1-0.27 Ounces product	
<b>NOTE:</b> The high rate is best for plants with heavy fruit loads.			
Potato Seed	To stimulate uniform sprouting to aid in maximum production, more uniform development, fewer late maturing plants, and to break dormancy of newly harvested potatoes that have not had a full rest period.	0.2 -0.4 grams A.I.  0.5 – 1.0 grams product  0.02-0.04 oz product	Dip whole or cut seed pieces in a solution containing 0.2-to-0.4 grams a.i. in 100gallons of water prior to planting.
<b>Note:</b> Under high soil temperatures use the minimum concentration for dormant seed. Do not treat rested seed pieces.			
Rhubarb	To break dormancy on plants receiving insufficient chilling and to increase market-able yield of forced rhubarb.	10-20 Grams A.I. 25 - 50 Grams product 0.9 — 1.8 Ounces product	1) When the rest period is not completely broken, make a single application of 2 fluid Ounces (60 ml) of a solution containing 20 Grams A.I. in 10 gallons of water to each cleaned crown. 2) When the rest period is broken by cold weather, apply 2 fluid Ounces (60 ml) of a solution containing 10 Grams A.I. in 10 gallons of water to each cleaned crown.
<b>NOTE:</b> Keep forcing house temperatures at 40 - 50° F for 24 hours after application. If house is warmer than 50° F, cover crowns with plastic. Temperatures above 50° F lower yields and cause poor stalk color.			
Spinach, Mustard greens, Collard greens and Turnip greens. (Not for use in California)	To facilitate harvest, increase yield and improve quality of fall and overwinter crops.	4- 10 Grams A.I. 10-25 Grams product 0.4 - 0.9 Ounces product	Apply a single spray 10 - 18 days before each anticipated harvest on fall or over-winter crops, ideally when daytime temperatures are 40° F - 70° F and during early morning hours when dew is present on crop. When applied to promote growth of second cutting, wait until some re-growth has started before spraying. Maximum benefit is obtained when below normal temperatures prevail following application and growth would be otherwise slowed in untreated crops.
<b>NOTE:</b> Since the promotion of bolting has been known to occur, do not apply after the mid-winter period or if temperatures are expected to exceed 75° F within several days of application. Do not apply on spring plantings.			

## SPRAY GUIDELINES FOR TEMPERATE FIELD CROPS

### RICE

CROP/VARIETY	OBJECTIVE	USE RATE/ACRE	TIMING OF APPLICATION
Seedling Applications (Early Season)			
Rice	To promote early season plant vigor and more uniform seedling growth prior to permanent flood establishment. To aid in rice water weevil control use VitaGib 40% in a tank mixture combination with a neonicotinoid insecticide at directed label rates.	1-3 Grams A.I. 2.5 - 7.5 Grams product 0.1 -0.3 Ounces product	Make 1 - 2 applications at the 1 - 2 and/or 4 - 5 leaf stages of growth.
Note: <ul style="list-style-type: none"> <li>• Early flooding reduces the additional flushing costs associated with a delay in establishing the permanent flood, reduce weed infestations and the number of herbicide applications, and/or promote earlier and more uniform grain maturity.</li> <li>• Do not apply prior to the 2 - 3 leaf stage if gibberellin seed treatment is used.</li> <li>• Timing and dosage are to be based upon environmental conditions, tank mix combinations with herbicides, and preferred permanent flood practice in relation to rice leaf stage.</li> <li>• Do not apply when rice is subjected to drought stress conditions.</li> </ul>			
Panicle Extension Applications (Late Season)			
Rice (Not For Use in California)	To promote main culm and tiller panicle extension which has been seen to result in improved pollination and seed yield.	3-8 Grams A.I. 7.5 - 20 Grams product 0.3 - 0.7 Ounces product	Make a single application between split-boot and 100% panicle heading.  Heading applications to the first crop also has been observed to accelerate regrowth of second crop rice.
Rice (Hybrid Seed Production) (Not For Use in California)	To promote main culm and tiller panicle extension resulting in improved pollination and seed yield.	20- 100 Grams A.I. 50-250 Grams ' product 1.8-9.0 Ounces product	Make 1-5 applications at regular intervals during the heading period to promote main culm and tiller panicle extension.
Note: <ul style="list-style-type: none"> <li>• Timing and dosage are to be based upon environmental conditions, tank mix combinations with herbicides, and preferred permanent flood practice in relation to rice leaf stage.</li> <li>• Do not apply when rice is subjected to drought stress conditions.</li> <li>• Foliage occasionally and temporarily appears lighter green in color due to accelerated growth rates following VitaGib 40% application.</li> </ul>			
Rice (Not For Use in California)	Promote yield enhancement of ratoon crop rice by increasing ratoon tiller growth and aiding ratoon stand establishment.	4-7 Grams A.I. 10- 17.5 Grams product 0.4 -0.6 Ounces product	Apply single application at post flowering through soft dough stage.

## SEED TREATMENT APPLICATION

### Use Restriction

#### Do not use treated seed for food, feed or oil purposes

An approved dye must be added to distinguish VitaGib 40% treated seed and prevent inadvertent use for food, feed, or oil purposes. Treated seed must be labeled in accordance with the requirements of the Federal Seed Act.

Apply VitaGib 40% to seed with standard mist treating equipment. For best results, ensure complete and uniform coverage.

Fill the treatment tank with half of the final tank mix volume. Add the required amount of VitaGib 40% and mix thoroughly while adding water and other co-applied seed treatment products (see Compatibility with Other Chemicals section) to the desired final volume.

CROP/VARIETY	OBJECTIVE	USE RATE/100 lb	TIMING OF APPLICATION
Wheat seed treatment (Not for Use in California)	To promote germination, emergence, and plant establishment particularly for seed with dormancy problems when planted under cool soil conditions.	1-3 Grams A.I. 2.5 - 7.5 Grams product 0.1 -0.27 Ounces product	Use 8-20 fl oz. water/100 lb seed.  Do not exceed 0.27 oz of product/100 lb seed

VitaGib 40% stimulates seed germination and promotes faster and more uniform stand establishment.

CROP/VARIETY	OBJECTIVE/BENEFIT	USE RATE/ACRE	APPLICATION TIMING
Seed treatment for Rice(semi-dwarf and tall varieties)	To promote germination and emergence for semi-dwarf and tall varieties. To help increase final stand density and uniformity when seed are planted deeper to receive adequate moisture.	0.5 to 2 g A.I. 1.25 – 5.25 grams product (0.05 - 0.2 oz product) /100 lbs. seed	Mix the desired amount of product into 8 – 20 fl ounces of water per each 100 lbs. of seed.

- Do not apply VitaGib 40% prior to a 24 hour presoak or to water used for the presoak.
- Do not exceed 0.2 oz of product/100 lbs. of seed.

### TEMPERATE FIELD CROPS - FIELD USES

CROP/VARIETY	OBJECTIVE	USE RATE/ACRE	TIMING OF APPLICATION
Cotton	Promote early season growth and increase seedling vigor	1 - 6 Grams A.I. 2.5-15 Grams product 0.1 -0.5 Ounces products	Apply 1 - 2 applications as a foliar broadcast spray during the 3-7 leaf/node stage. If applying as a banded spray, reduce rates accordingly. Complete coverage of leaf tissue is essential. Use higher rates when temperatures will likely average 75° F or less during the 14 days following application(s).

#### Notes:

- Do not apply VitaGib 40% to plants that are under drought stress. If the plants are under continuous stress, delay the application of VitaGib 40% until the stress is alleviated and the plants begin to recover.
- Applying more often than necessary to achieve the desired height, results in excessive vegetative growth.

**TEMPERATE FIELD CROPS - FIELD USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Dry Bean	Promotes early season growth, increased seedling vigor, and increased plant height allowing for improved harvesting efficiency.	1-6 Grams A.I. 2.5-15 Grams product 0.1 -0.5 Ounces product	Apply 1 - 2 applications as a foliar broadcast spray during the 3 - 7 leaf/node stage. If applying as a banded spray, reduce rates accordingly. Complete coverage of leaf tissue is essential. Use higher rates when temperatures will likely average 75° F or less during the 14 days following application(s).

**NOTE:**

- Do not apply plants that are under drought stress. If plants are under continuous stress, delay the application until the stress is alleviated and the plants are beginning to recover.
- Applying more often than necessary to achieve the desired height results in excessive vegetative growth.
- Highly variable responses based on genetic background or variety are known to occur. Caution should be used when applying to varieties where there is no prior knowledge of the response.

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Hops Seeded and seedless Fuggle hops and similar varieties adapted to the Northwestern states.	To increase fruit set and yield.	4-6 Grams A.I. 10-15 Grams product 0.4 -0.5 Ounces product	Make a single application in 100-150 gallons of water per acre when vine growth is 5-8 feet in length.

Note: Do not apply VitaGib 40% to plants that are under drought stress. Applications during stem elongation may increase lodging. Avoid drift or accidental application to other crops.

**TEMPERATE FIELD CROPS - FIELD USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING.OF APPLICATION</b>
*Corn: Field	Stimulate early season growth and vigor by creating a stronger, more stress tolerant crop with increased yield.	5 grams A.I. 12.5 grams product 0.5 oz product	V3-V5 growth stage  Apply in 15 gal/acre by ground, 2 gal/A by aerial. Use 1 qt/100 gallons non-ionic surfactant plus 2 lb/A AMS.
Corn: Field, Silage	To increase yield and help overcome the effects of heat or drought stress	2-6 Grams A.I. 5-15 Grams product 0.3 - 0.6 Ounces product	Apply at V2 - V6
Corn: Popcorn, Sweet corn, Seed corn	To increase yield and help overcome the effects of heat or drought stress	2-6 Grams A.I.  5-15 Grams product 0.3 - 0.6 Ounces product	Apply at V2 - V6

**\*NOTE:**

- Foliage occasionally and temporarily appears lighter green in color due to accelerated growth rates following application. For best results, ensure fertility is adequate to sustain additional growth.
- Plants will not respond to treatment without adequate moisture or if under pest and/or nutritional stress.
- Better results have been seen with the use of anon-ionic surfactant.
- VitaGib 40% is compatible as a tank-mix partner with Roundup® herbicide on glyphosate resistant corn. Use of

VitaGib 40% with other tank-mix partners is done solely at the user's risk.

- Always consider tank-mix partner directions when using VitaGib 40%
- Do not tank-mix VitaGib 40% with 2,4-D or any herbicide containing 2,4-D when applying to corn.
- VitaGib 40% enhances the effect of some HPPD (group #27) herbicides and will cause unwanted injury on corn when applied post emergent to hybrids with known sensitivity to HPPD herbicides. Users should understand and accept this risk before applying VitaGib 40% on corn with HPPD herbicides.

### TEMPERATE FIELD CROPS - FIELD USES

CROP/VARIETY	OBJECTIVE/BENEFIT	USE RATE/ACRE	APPLICATION TIMING
Soybean	To improve mechanical harvest efficiency by elongating the first and second internode of young plants.	1 - 20 Grams A.I. 2-50 Grams product 0.1 -1.8 Ounces product	VI -V4: Apply 1-2 applications as a foliar broadcast spray during growth stages VI -V4 (1-2 sets of unfolded trifoliolate leaves). If applying as a banded spray, reduce rates accordingly. Complete coverage of leaf tissue is essential. Make applications in 20-40 gallons water/A. I.
Note: Differences in response by variety may be large. Caution should be used when using on untested varieties. For specific variety information, consult your local specialist.			
	To enhance postemergence grass control.	1 - 20 Grams A.I. 2-50 Grams product 0.1 -1.8 Ounces product. 2-4 Grams	V2-R5: Apply with a suitable herbicide for enhanced control of Johnsongrass and volunteer corn in soybeans.
	To increase pod set and increase the growth of the plant.	2-4 Grams A.I. 6-11 Grams product 0.2 - 0.4 Ounces Product	Make a single application at V5-R3 growth stage.
	To increase pod fill and seed size	2-4 Grams A.I. 6-11 Grams product 0.2 - 0.4 Ounces Product	Make a single application 2-3 weeks before senescence. This should coincide with R5 growth stage.
Note: Differences in response by variety may be large. Caution should be used when using on untested varieties. Consult your local specialist.			
Peanuts	To promote plant growth.	2.5 -5.0 Grams A.I 6 - 12 Grams product 0.2 - 0.4 Ounces product	Make 2-4 applications on a 2, week interval. Begin sprays 2 weeks after emergence.
	To enhance postemergence grass control.	5-20 Grams A.I. 12 -50 Grams product 0.4 -1.8 Ounces product.	Apply with a suitable herbicide for enhanced control of Johnsongrass and volunteer corn in peanuts.
<b>Note:</b> Differences in response by variety may be large. Caution should be used when using on untested varieties. For specific variety information, consult your local specialist.			

**TEMPERATE FIELD CROPS - FIELD USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
On young wheat, barley and oat plants  (Not for use in California)	Promote growth and stand establishment	3 -6 grams a.i.  0.3 -0.6 oz product	As a foliar application during tillering but before stem elongation. Use higher end rates when temperature is expected to average 75 <sup>0</sup> F or less during the 14 days following application.

**NOTE:**

Keep application of the high rate at least two weeks apart.

**TEMPERATE FIELD CROPS - FIELD USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE/ACRE</b>	<b>TIMING OF APPLICATION</b>
Wheat, Barley	To maximize yield potential during grain fill period	3-6 grams a.i.  0.3 – 0.6 oz product	As a foliar application from anthesis to maturity (Feekes 10.5-11.4)
Bermudagrass Tifdwarf Tifgreen	To maintain or enhance regrowth Bermudagrass during summer months	1 to 3 grams a.i.  0.1 – 0.3 oz product	Under hot conditions, apply 1-3 grams a.i./acre weekly in 25-100 gals, of water/acre
Bermudagrass (Tifdwarf, Tifgreen and other cultivars)	To initiate or maintain growth and prevent color change during periods of cold stress and light frosts.	10 to 25 grams a.i.  0.9 to 2.3 oz product	Under cool conditions, apply 10g a.i/acre weekly or 25 g a.i/acre biweekly in 25-100 gals. of water/acre.

**NOTE:**

Maintain adequate moisture and proper fertilizer programs as required for the local area.

Keep application of the high rate at least two weeks apart.

Do not use on dormant grass.

Discontinue treatment if thinning occurs.

More frequent mowing is occasionally necessary.

**GENERAL PRE-PLANT USE: For Use in pre-plant burndown herbicide applications.**

<b>USE</b>	<b>OBJECTIVE/BENEFIT</b>	<b>RATE/ACRE</b>	<b>APPLICATION TIMING</b>
Soil application	To promote early Palmer amaranth and/or waterhemp seed germination to better synchronize their sensitivity.	5-20 Grams A.I 12-50 Grams product 0.4 -1.8 Ounces	Apply with a pre-emergence herbicide that has activity on Palmer amaranth and/or Waterhemp.

**PASTURES & FORAGE - FIELD USES**

<b>CROP/VARIETY</b>	<b>OBJECTIVE</b>	<b>USE RATE.ACRE</b>	<b>TIMING OF APPLICATION</b>
Perennial Forage Grasses	To stimulate dry matter production for grazing, hay, green chop or silage when cool season conditions limit growth rates.	3-11 Grams A.I.  7.5 - 27.5 Grams product  0.3- 1.0 Ounces	Spring Application: 1-3 applications every 3-4 weeks starting at green up after 1 - 2 inches of new shoot growth has emerged. Autumn Application: 1 – 3 applications every 3-4 weeks starting when forage growth has slowed due to cool temperatures. Best response occurs when average daily temperatures are between 40° F-60° F and adequate moisture

		product	and nutrition is present.
Annual Forage Grasses	To stimulate dry matter production for grazing, hay, green chop or silage when cool season conditions limit growth rates.	3-11 Grams A.I. 7.5 - 27.5 Grams product 0.3- 1.0 Ounces product	Apply 1 - 6 applications every 3-4 weeks from autumn to early spring during periods of suboptimal growth due to cool temperatures. If applying to over-seeded pasture or newly established pasture, apply only after seedlings are well established. Best response occurs when average daily temperatures are between 40° F - 60° F and adequate moisture and nutrition are present.
Cereal Grains (such as barley, oats, rye, sorghum, wheat, triticale)	To stimulate dry matter production for grazing, hay, green chop or silage when cool season conditions limit growth rates.	3-11 Grams A.I. 7.5 - 27.5 Grams product 0.3- 1.0 Ounces product	Spring Application: 1 – 3 applications every 3-4 weeks starting at green up after 1 - 2 inches of new shoot growth has emerged. Autumn Application: 1 – 3 applications every 3-4 weeks starting when forage growth has slowed due to cool temperatures. Application to cereal grains during stem elongation.
Winter Brassicas (such as turnip, kale, rape)	To stimulate dry matter production for grazing, hay, green chop or silage when cool season conditions limit growth rates.	3-11 Grams A.I. 7.5 - 27.5 Grams product 0.3- 1.0 Ounces product	Spring Application: 1 – 3 applications every 3-4 weeks starting at green up after 1-2 inches of new shoot growth has emerged. Autumn Application: 1 – 3 applications every 3-4 weeks starting when forage growth has slowed due to cool temperatures. Best response occurs when average daily temperatures are between 40° F - 60° F and adequate moisture and nutrition are present.

**NOTE:**

- Foliage occasionally and temporarily appears lighter green in color due to accelerated growth rates following application. For best results, ensure fertility is adequate to sustain additional pasture growth.
- Plants will not respond to treatment without adequate moisture or if under pest and/or nutritional stress.
- Once plants are at their maximum growth rate under optimal temperatures application of VitaGib 40% will not stimulate additional growth.
- Plants will not respond when the ground is frozen.
- Plants treated at maximum physiological size will not respond with additional growth.

**SPRAY GUIDELINES FOR WATERCRESS:**

Watercress			
CROP/VARIETY	OBJECTIVE/BENEFIT	USE RATE/ACRE	APPLICATION TIMING
Watercress	1 ) To enhance growth in adverse weather conditions; 2) To help plants resume growth after insect and disease attacks; 3) To increase root free stem length during low light/short day conditions.	15 -25 Grams A.I. 37.5 -62.5 Grams product 1.4-2.3 Ounces product	Make 1 - 2 applications per acre per crop 3-7 days before harvest. Use 50-100 gallons of water per acre.

VitaGib 40% CONVERSIONS

VitaGib 40% contains 1.0 gram of A.I. per 2.5 Grams (0.09 oz) of product.  
 To convert from Grams A.I. to Grams Product - Multiply Grams A.I. x 2.5  
 (i.e. 32 g A.I. x 2.5 = 80 g VitaGib 40%)

To convert from Grams A.I. to Dry Ounces Product - Multiply Grams A.I. x 0.09  
 (i.e. 32 g A.I. x 0.09 = 2.9 oz VitaGib 40%)

CONVERSION TABLE (for the 320 g size)

Grams of Active Ingredient	Grams of VitaGib GA3 40%	Ounces of VitaGib 40%
2	5	0.2
4	10	0.4
5	12.5	0.5
6	15	0.6
8	20	0.7
10	25	0.9
15	37.5	1.4
20	50	1.8
30	75	2.7
40	100	3.6
50	125	4.5
60	150	5.4
80	200	7.2
100	250	9.0
128	320	11.5

Grams of VitaGib 40% for given ppm's of Gibberellic Acid at Different Water Volumes.

Gallons of Water	Desired parts per million (ppm) of gibberellic acid									
	4	5	6	8	10	15	20	30	40	50
75	1.5	3	4.5	6	7.5	11	14	21	28	35
100	2	4	6	8	10	14	19	28	38?	47
125	2.5	5	7.5	9	12	18	24	35	47	59
150	3	6	9	11	15	19	28	43	57	71
200	4	8	11	15	19	28	38	57	56	95
250	5	10	14	19	24	35	47	71	95	118
300	5.5	11	17	23	28	43	57	85	113	142
400	7.5	15	23	30	38	57	76	113	151	189
500	9.5	19	28	38	47	71	95	142	189	236
600	11	23	34	45	57	85	113	170	227	284
750	14	28	43	57	71	106	142	213	284	

Note: The numbers inside the table are the Grams of VitaGib 40% needed to obtain the desired ppm's for each gallon.

## **STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

### **PESTICIDE STORAGE:**

Keep containers tightly closed when not in use.

### **PESTICIDE DISPOSAL:**

Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

### **CONTAINER DISPOSAL: (160, 320 or 850 gram bottles)**

Non-refillable container. Do not reuse containers. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or mix tank. Fill container ¼ full with water and recap. Shake 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after flow begins to drip. Repeat this procedure two more times. Then offer for recycling or dispose of in a sanitary landfill, or incineration, if allowed by state and local authorities by burning. If burned, stay out of smoke. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

## **LIMITED WARRANTY AND DISCLAIMER**

It is the manufacturer's intention that this product is to be used in accordance with the Directions for Use as stated on this label. The use of this product being beyond control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such use or the results to be obtained if not used in accordance with printed directions and established safe practice. To the fullest extent permitted by law, the buyer's exclusive remedy and manufacturer's or seller's exclusive liability for any and all claims, losses, damages or injuries resulting from the use or handling of this product, whether or not based in contract, negligence, strict liability in tort or otherwise, shall be limited, at the manufacturer's option, to replacement of, or the repayment of the purchase price for, the quantity of product with respect to which damages are claimed.

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